

MEASURING SUCCESS: KING'S CROSS CENTRAL REGENERATION, 2002-2017



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OVERVIEW

The development work at King's Cross has completely transformed an inaccessible area of London that consisted of disused buildings, railway sidings, warehouses and contaminated land into a community with facilities to enable people to thrive and enjoy life.

- 316,000 sq m of office space
- Nearly 2,000 new homes, from student flats to care homes
- 46,400 sq m of retail and leisure space
- A Grade II listed boutique hotel
- Educational facilities from a new primary Academy to the world famous Central St Martins
- 26 acres of open spaces including streets, parks and squares
- Connected by six London Underground lines with two national mainline train stations and international high speed rail
- A visitor centre and free guided tours

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Consult. Trust. Innovate.



Read on to find out how we've been involved with the King's Cross Central Limited Partnership.



Plowman Craven

Our involvement in King's Cross Central redevelopment

From putting in place the original control grid at King's Cross station back in 2002, Plowman Craven has been privileged to be the primary survey contractor on the King's Cross Central regeneration, a site of extraordinary scale and significance.

Since then we have surveyed, measured and collated accurate survey information across the whole 67 acre site, covering buildings, railway lines, tunnels and utilities – the result being that we have an invaluable knowledge of every square metre of the site and a detailed understanding of what has already been measured.

Due to the unique approach taken by Argent, the master developer and asset manager for the King's Cross Central Limited Partnership, we have enjoyed close working relationships with all the architects, engineers and design teams as well as with Argent themselves, and this has brought benefits in ensuring absolute suitability of the data for purpose as well as time and cost efficiencies.

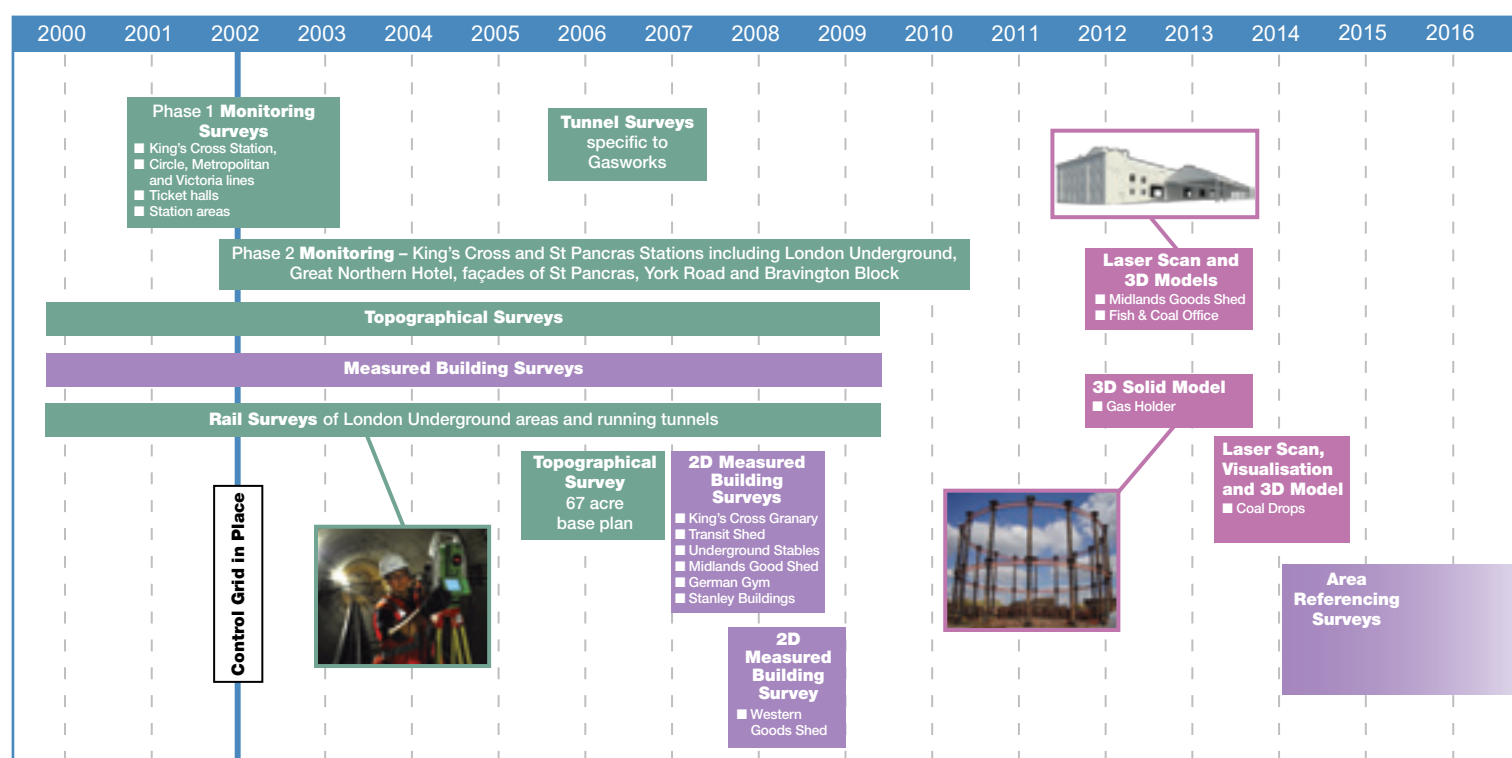
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“The King's Cross project has involved almost every member of our staff at some point, has shaped who we are today, how we choose to work with clients and the approach we take to providing the dependable service we are renowned for. It's a privilege to be involved and to be able to measure our contribution to this inventive and exhilarating project.”



Mark Howells,
Project Manager
King's Cross,
2002 – Account
Management
Director, 2015

Survey Timeline





“The core principle of surveying is to look at the whole, rather than the part, and build it up from the individual elements. This project has embraced that approach.”



Russell Haythorpe,
King's Cross
Project
Manager
2010 –
2015

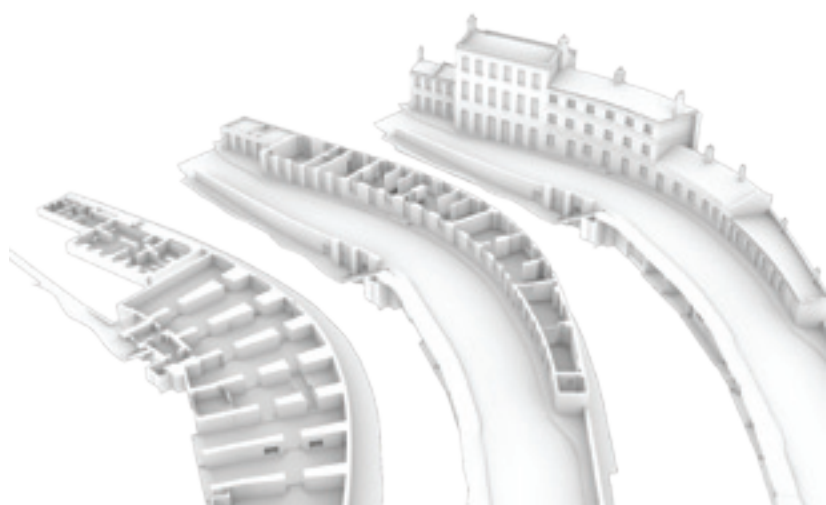
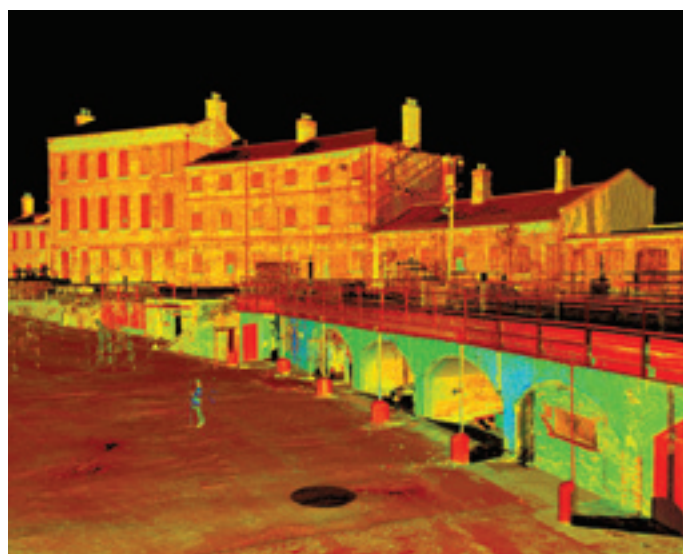
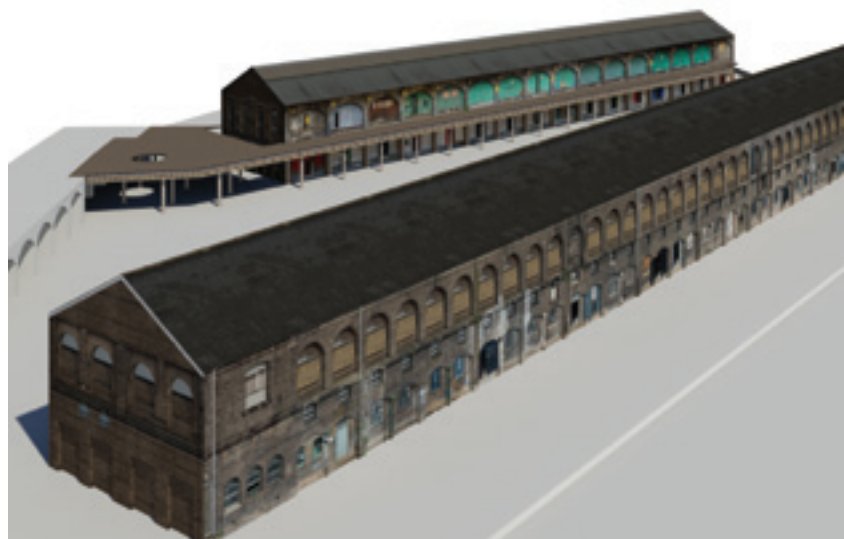
The King's Cross Partnership took the approach that one master set of data would be produced and maintained by Plowman Craven, then supplied as required to the relevant party. We provided consultancy advice from the outset, based on our knowledge of providing measurement services in both construction and rail environments for over 50 years. We were also able to offer insight into the approvals processes required by London Underground and Network Rail as well as cost-saving approaches to data acquisition and management so that data could be used for multiple purposes throughout the project's lifespan.

Our first project was to provide monitoring for King's Cross station and the surrounding buildings while the station upgrade was taking place, when we created and installed the original survey control grid. This grid was then accurately transformed to Ordnance

Survey Grid once the development expanded outside of the station, following the overall masterplan being approved in 2006, and steps were being taken to apply for planning. Being the largest geomatics survey company in the UK meant that we were, at short notice, able to deploy 15 people to site to generate the data required for the outline planning application and complete this first stage within a demanding two month timeframe.

Since then we have gone on to acquire data through

- 3D Laser Scanning
- Measured Building Surveys
- Heritage Recording
- Manual Monitoring
- Area Referencing
- Infrastructure Surveys
- Rail Surveys
- Correlation Surveys



In addition to the multiple uses of the data by the developer, architects, engineers and design teams, we have also used it to create

- **Building Information Modelling (BIM)**
- **3D Models**
- **Visualisations**
- **Underground Utilities Mapping**
- **Rights of Light Reporting**
- **As-Built Records**

Having complete knowledge of the measurements taken across the whole 67 acres meant that we have been able to review the totality of the data available and advise where it can be repurposed or updated to meet the requirements, saving multiple surveys of the same area. It also meant that we had a 360° view of what needed to be done, so if our surveyors were unable to access the area they had

planned to on their schedule, then they could simply move on to an alternative activity on site rather than have a wasted visit. It helps having been on site so many times over more than a decade, as does knowing all the security staff.

Remaining fleet footed at all times has been key when acting as an information provider to multiple other parties, as any delays in providing the appropriate data can have a significant impact. We know that speed of response is as important as accuracy when, on a development of this scale, holding up a design team could cost in the region of £1m a month.

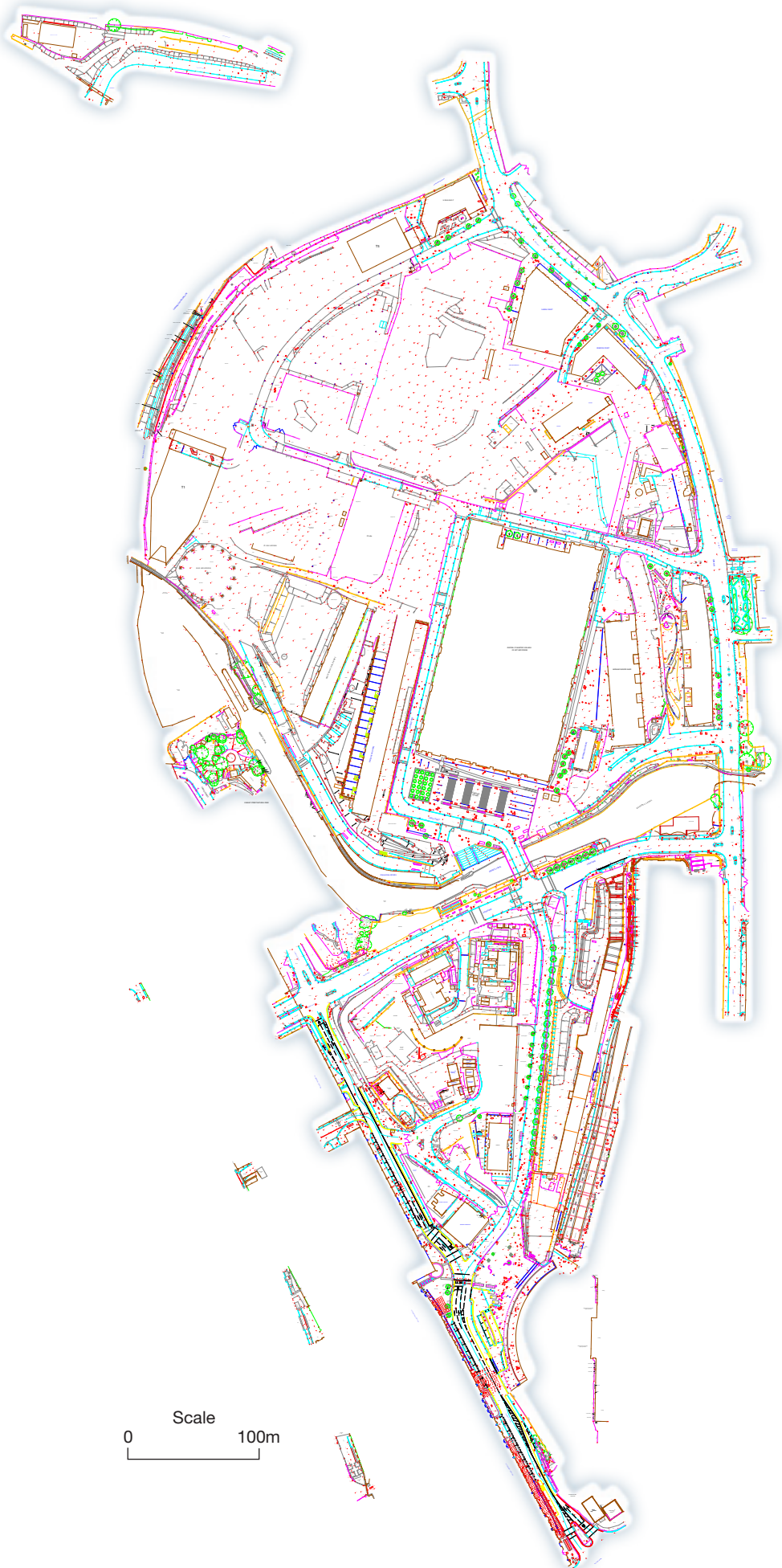
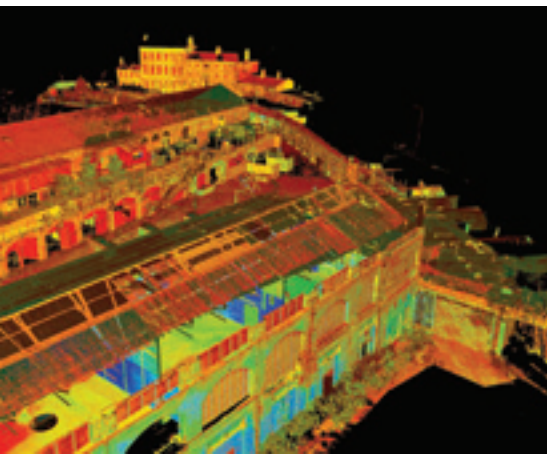


“Drawing on the services of our Visualisation team we were able to accurately reproduce the Victorian brickwork as a texture onto the 3D model so that the architect could accurately visualise their proposals to English Heritage.”



Hugh Thomas,
Lead
Surveyor
King's Cross
2011 – 2015

3D Topographical Base Plan





“How do you quantify the problems that haven’t occurred? It’s impossible to put a price on what has been prevented by knowing and being able to understand the site so well, and that’s why we value the input and guidance of Plowman Craven.”



Richard Meier, Director, Argent.

Elements that would cause concern	Plowman Craven's solution	Evidenced by
Inaccuracy of data	Investment in retaining high quality staff	Long-standing staff
Completeness of data	Investment in new technology	Early adoption of new methods
Drifting timelines due to poor delivery	Accuracy of data coupled with knowledgeable staff	Minimum or no re-work of delivered data
Inability to meet deadlines due to staffing issues	Large workforce enables quick deployment to site	Swift completion of surveys
Paying for duplicate data collection	One provider, with the full capability for all eventualities	Data from 2002 still being referred to
Survey gaps	Being the only survey provider on site, we can clearly see which elements have or haven't been investigated, and ensure no gaps remain unmeasured	Plowman Craven base map has continued to be utilised by all project stakeholders
Not using the most up to date version of the data	Centrally managed system ensures only the current data is available	Data management and communication to Argent
Delays resulting from infrastructure owners	Highly experienced with a full understanding of rail, underground and utilities organisations	Approval and access granted to planned schedule
Poor relationships with stakeholders and partners	Team efforts to keep communications and understand requirements	Participation in design team meetings
Not maximising lettable space	Understanding the commercial requirements of the developer	Precise area referencing and measurement against the architect's drawings

Benefits of working with Plowman Craven

- A holistic view brings benefits in terms of both time and cost, for example total knowledge of what's already been scanned and confidence in our data means we can repurpose existing information rather than conduct repeat surveys
- Dealing directly with the end users of the data ensures we are delivering exactly what is needed by each party
- Through consistently providing accurate data, knowledge and insight, we've earned the trust of the design team
- Being so integral and seeing the value it brings has created a deeper connection and commitment to the project, resulting in even better output than anticipated
- Relationships have been developed across the different partners so that finding solutions is simpler, quicker and always a key objective
- The breadth of skills across the Plowman Craven teams has offered up solutions to problems that couldn't have been predicted at the outset
- One call can access all the surveying knowledge rather than having to identify which of a number of partners is the correct one to speak to

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